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Ser Ala Phe Gln Phe Gly Glu Val Val Leu Glu Trp Ser Arg Asp Gln  
 35 40 45

Tyr His Val Leu Phe Asp Ser Tyr Arg Asp Asn Ile Ala Gly Lys Ser  
 50 55 60

Phe Gln Asn Arg Leu Cys Leu Pro Met Pro Ile Asp Val Val Tyr Thr  
 65 70 75 80

Trp Val Asn Gly Thr Asp Leu Glu Leu Leu Lys Glu Leu Gln Gln Val  
 85 90 95

Arg Glu Gln Met Glu Glu Glu Gln Lys Ala Met Arg Glu Ile Leu Gly  
 100 105 110

Lys Asn Thr Thr Glu Pro Thr Lys Lys Ser Glu Lys Gln Leu Glu Cys  
 115 120 125

10023888-122101

Leu Leu Thr His Cys Ile Lys Val Pro Met Leu Val Leu Asp Pro Ala  
130 135 140

Leu Pro Ala Asn Ile Thr Leu Lys Asp Val Pro Ser Leu Tyr Pro Ser  
145 150 155 160

Phe His Ser Ala Ser Asp Ile Phe Asn Val Ala Lys Pro Lys Asn Pro  
165 170 175

Ser Thr Asn Val Ser Val Val Val Phe Asp Ser Thr Lys Asp Val Glu  
180 185 190

Asp Ala His Ser Gly Leu Leu Lys Gly Asn Ser Arg Gln Thr Val Trp  
195 200 205

Arg Gly Tyr Leu Thr Thr Asp Lys Glu Val Pro Gly Leu Val Leu Met  
210 215 220

Gln Asp Leu Ala Phe Leu Ser Gly Phe Pro Pro Thr Phe Lys Glu Thr  
225 230 235 240

Asn Gln Leu Lys Thr Lys Leu Pro Glu Asn Leu Ser Ser Lys Val Lys  
245 250 255

Leu Leu Gln Leu Tyr Ser Glu Ala Ser Val Ala Leu Leu Lys Leu Asn  
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Asn Pro Lys Asp Phe Gln Glu Leu Asn Lys Gln Thr Lys Lys Asn Met  
275 280 285

Thr Ile Asp Gly Lys Glu Leu Thr Ile Ser Pro Ala Tyr Leu Leu Trp  
290 295 300

Asp Leu Ser Ala Ile Ser Gln Ser Lys Gln Asp Glu Asp Ile Ser Ala  
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Ser Arg Phe Glu Asp Asn Glu Glu Leu Arg Tyr Ser Leu Arg Ser Ile  
325 330 335

Glu Arg His Ala Pro Trp Val Arg Asn Ile Phe Ile Val Thr Asn Gly  
340 345 350

Gln Ile Pro Ser Trp Leu Asn Leu Asp Asn Pro Arg Val Thr Ile Val

355

360

365

Thr His Gln Asp Val Phe Arg Asn Leu Ser His Leu Pro Thr Phe Ser  
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Ser Pro Ala Ile Glu Ser His Ile His Arg Ile Glu Gly Leu Ser Gln  
 385 390 395 400

Lys Phe Ile Tyr Leu Asn Asp Asp Val Met Phe Gly Lys Asp Val Trp  
 405 410 415

Pro Asp Asp Phe Tyr Ser His Ser Lys Gly Gln Lys Val Tyr Leu Thr  
 420 425 430

Trp Pro Val Pro Asn Cys Ala Glu Gly Cys Pro Gly Ser Trp Ile Lys  
 435 440 445

Asp Gly Tyr Cys Asp Lys Ala Cys Asn Asn Ser Ala Cys Asp Trp Asp  
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Gly Gly Asp Cys Ser Gly Asn Ser Gly Gly Ser Arg Tyr Ile Ala Gly  
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Gly Gly Gly Thr Gly Ser Ile Gly Val Gly His Pro Trp Gln Phe Gly  
 485 490 495

Gly Gly Ile Asn Ser Val Ser Tyr Cys Asn Gln Gly Cys Ala Asn Ser  
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Trp Leu Ala Asp Lys Phe Cys Asp Gln Ala Cys Asn Val Leu Ser Cys  
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Gly Phe Asp Ala Gly Asp Cys Gly Gln Asp His Phe His Glu Leu Tyr  
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Lys Val Ile Leu Leu Pro Asn Gln Thr His Tyr Ile Ile Pro Lys Gly  
 545 550 555 560

Glu Cys Leu Pro Tyr Phe Ser Phe Ala Glu Val Ala Lys Arg Gly Val  
 565 570 575

Glu Gly Ala Tyr Ser Asp Asn Pro Ile Ile Arg His Ala Ser Ile Ala  
 580 585 590

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10023388-123101

Asn Lys Trp Lys Thr Ile His Leu Ile Met His Ser Gly Met Asn Ala  
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Thr Thr Ile His Phe Asn Leu Thr Phe Gln Asn Thr Asn Asp Glu Glu  
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Phe Lys Met Gln Ile Thr Val Glu Val Asp Thr Arg Glu Gly Pro Lys  
625 630 635 640

Leu Asn Ser Thr Ala Gln Lys Gly Tyr Glu Asn Leu Val Ser Pro Ile  
645 650 655

Thr Leu Leu Pro Glu Ala Glu Ile Leu Phe Glu Asp Ile Pro Lys Glu  
660 665 670

Lys Arg Phe Pro Lys Phe Lys Arg His Asp Val Asn Ser Thr Arg Arg  
675 680 685

Ala Gln Glu Glu Val Lys Ile Pro Leu Val Asn Ile Ser Leu Leu Pro  
690 695 700

Lys Asp Ala Gln Leu Ser Leu Asn Thr Leu Asp Leu Gln Leu Glu His  
705 710 715 720

Gly Asp Ile Thr Leu Lys Gly Tyr Asn Leu Ser Lys Ser Ala Leu Leu  
725 730 735

Arg Ser Phe Leu Met Asn Ser Gln His Ala Lys Ile Lys Asn Gln Ala  
740 745 750

Ile Ile Thr Asp Glu Thr Asn Asp Ser Leu Val Ala Pro Gln Glu Lys  
755 760 765

Gln Val His Lys Ser Ile Leu Pro Asn Ser Leu Gly Val Ser Glu Arg  
770 775 780

Leu Gln Arg Leu Thr Phe Pro Ala Val Ser Val Lys Val Asn Gly His  
785 790 795 800

Asp Gln Gly Gln Asn Pro Pro Leu Asp Leu Glu Thr Thr Ala Arg Phe  
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10033333-123404

Arg Val Glu Thr His Thr Gln Lys Thr Ile Gly Gly Asn Val Thr Lys  
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Glu Lys Pro Pro Ser Leu Ile Val Pro Leu Glu Ser Gln Met Thr Lys  
835 840 845

Glu Lys Lys Ile Thr Gly Lys Glu Lys Glu Asn Ser Arg Met Glu Glu  
850 855 860

Asn Ala Glu Asn His Ile Gly Val Thr Glu Val Leu Leu Gly Arg Lys  
865 870 875 880

Leu Gln His Tyr Thr Asp Ser Tyr Leu Gly Phe Leu Pro Trp Glu Lys  
885 890 895

Lys Lys Tyr Phe Gln Asp Leu Leu Asp Glu Glu Glu Ser Leu Lys Thr  
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Gln Leu Ala Tyr Phe Thr Asp Ser Lys Asn Thr Gly Arg Gln Leu Lys  
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Lys Phe Gly Phe Thr Ser Arg Lys Val Pro Ala His Met Pro His Met  
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Ile Asp Arg Ile Val Met Gln Glu Leu Gln Asp Met Phe Pro Glu Glu  
35 40 45

Phe Asp Lys Thr Ser Phe His Lys Val Arg His Ser Glu Asp Met Gln  
50 55 60

Phe Ala Phe Ser Tyr Phe Tyr Tyr Leu Met Ser Ala Val Gln Pro Leu  
65 70 75 80

Asn Ile Ser Gln Val Phe Asp Glu Val Asp Thr Asp Gln Ser Gly Val



85

90

95

Leu Ser Asp Arg Glu Ile Arg Thr Leu Ala Thr Arg Ile His Glu Leu  
100 105 110

Pro Leu Ser Leu Gln Asp Leu Thr Gly Leu Glu His Met Leu Ile Asn  
115 120 125

Cys Ser Lys Met Leu Pro Ala Asp Ile Thr Gln Leu Asn Asn Ile Pro  
130 135 140

Pro Thr Gln Glu Ser Tyr Tyr Asp Pro Asn Leu Pro Pro Val Thr Lys  
145 150 155 160

Ser Leu Val Thr Asn Cys Lys Pro Val Thr Asp Lys Ile His Lys Ala  
165 170 175

Tyr Lys Asp Lys Asn Lys Tyr Arg Phe Glu Ile Met Gly Glu Glu Glu  
180 185 190

Ile Ala Phe Lys Met Ile Arg Thr Asn Val Ser His Val Val Gly Gln  
195 200 205

Leu Asp Asp Ile Arg Lys Asn Pro Arg Lys Phe Val Cys Leu Asn Asp  
210 215 220

Asn Ile Asp His Asn His Lys Asp Ala Gln Thr Val Lys Ala Val Leu  
225 230 235 240

Arg Asp Phe Tyr Glu Ser Met Phe Pro Ile Pro Ser Gln Phe Glu Leu  
245 250 255

Pro Arg Glu Tyr Arg Asn Arg Phe Leu His Met His Glu Leu Gln Glu  
260 265 270

Trp Arg Ala Tyr Arg Asp Lys Leu Lys Phe Trp Thr His Cys Val Leu  
275 280 285

Ala Thr Leu Ile Met Phe Thr Ile Phe Ser Phe Phe Ala Glu Gln Leu  
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Ile Ala Leu Lys Arg Lys Ile Phe Pro Arg Arg Arg Ile His Lys Glu  
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Ala Ser Pro Asn Arg Ile Arg Val  
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<212> PRT  
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Gly Gly Pro Ala Pro Ala Gly Ala Ala Lys Met Lys Val Val Glu Glu  
20 25 30

Pro Asn Ala Phe Gly Val Asn Asn Pro Phe Leu Pro Gln Ala Ser Arg  
35 40 45

Leu Gln Ala Lys Arg Asp Pro Ser Pro Val Ser Gly Pro Val His Leu  
50 55 60

Phe Arg Leu Ser Gly Lys Cys Phe Ser Leu Val Glu Ser Thr Tyr Lys  
65 70 75 80

Tyr Glu Phe Cys Pro Phe His Asn Val Thr Gln His Glu Gln Thr Phe  
85 90 95

Arg Trp Asn Ala Tyr Ser Gly Ile Leu Gly Ile Trp His Glu Trp Glu  
100 105 110

Ile Ala Asn Asn Thr Phe Thr Gly Met Trp Met Arg Asp Gly Asp Ala  
115 120 125

Cys Arg Ser Arg Ser Arg Gln Ser Lys Val Glu Leu Ala Cys Gly Lys  
130 135 140

Ser Asn Arg Leu Ala His Val Ser Glu Pro Ser Thr Cys Val Tyr Ala  
145 150 155 160

Leu Thr Phe Glu Thr Pro Leu Val Cys His Pro His Ala Leu Leu Val  
165 170 175

Tyr Pro Thr Leu Pro Glu Ala Leu Gln Arg Gln Trp Asp Gln Val Glu  
180 185 190

Gln Asp Leu Ala Asp Glu Leu Ile Thr Pro Gln Gly His Glu Lys Leu  
195 200 205

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Leu Arg Thr Leu Phe Glu Asp Ala Gly Tyr Leu Lys Thr Pro Glu Glu  
210 215 220

Asn Glu Pro Thr Gln Leu Glu Gly Gly Pro Asp Ser Leu Gly Phe Glu  
225 230 235 240

Thr Leu Glu Asn Cys Arg Lys Ala His Lys Glu Leu Ser Lys Glu Ile  
245 250 255

Lys Arg Leu Lys Gly Leu Leu Thr Gln His Gly Ile Pro Tyr Thr Arg  
260 265 270

Pro Thr Glu Thr Ser Asn Leu Glu His Leu Gly His Glu Thr Pro Arg  
275 280 285

Ala Lys Ser Pro Glu Gln Leu Arg Gly Asp Pro Gly Leu Arg Gly Ser  
290 295 300

Leu  
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<400> 9

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Phe Gln Asn Arg Leu Cys Leu Pro Met Pro Ile Asp Val Val Tyr Thr  
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Trp Val Asn Gly Thr Asp Leu Glu Leu Leu Lys Glu Leu Gln Gln Val  
85 90 95

Arg Glu His Met Glu Glu Glu Gln Arg Ala Met Arg Glu Thr Leu Gly  
100 105 110

Lys Asn Thr Thr Glu Pro Thr Lys Lys Ser Glu Lys Gln Leu Glu Cys  
115 120 125

Leu Leu Thr His Cys Ile Lys Val Pro Met Leu Val Leu Asp Pro Ala  
130 135 140

Leu Pro Ala Thr Ile Thr Leu Lys Asp Leu Pro Thr Leu Tyr Pro Ser  
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Phe His Ala Ser Ser Asp Met Phe Asn Val Ala Lys Pro Lys Asn Pro  
165 170 175

Ser Thr Asn Val Pro Val Val Val Phe Asp Thr Thr Lys Asp Val Glu  
180 185 190

Asp Ala His Ala Gly Pro Phe Lys Gly Gly Gln Gln Thr Asp Val Trp  
195 200 205

Arg Ala Tyr Leu Thr Thr Asp Lys Asp Ala Pro Gly Leu Val Leu Ile  
210 215 220

Gln Gly Leu Ala Phe Leu Ser Gly Phe Pro Pro Thr Phe Lys Glu Thr  
225 230 235 240

Ser Gln Leu Lys Thr Lys Leu Pro Arg Lys Ala Phe Pro Leu Lys Ile  
245 250 255

Lys Leu Leu Arg Leu Tyr Ser Glu Ala Ser Val Ala Leu Leu Lys Leu  
260 265 270



10023888-2201

Asn Asn Pro Lys Gly Phe Gln Glu Leu Asn Lys Gln Thr Lys Lys Asn  
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Met Thr Ile Asp Gly Lys Glu Leu Thr Ile Ser Pro Ala Tyr Leu Leu  
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Trp Asp Leu Ser Ala Ile Ser Gln Ser Lys Gln Asp Glu Asp Ala Ser  
305 310 315 320

Ala Ser Arg Phe Glu Asp Asn Glu Glu Leu Arg Tyr Ser Leu Arg Ser  
325 330 335

Ile Glu Arg His Ala Pro Trp Val Arg Asn Ile Phe Ile Val Thr Asn  
340 345 350

Gly Gln Ile Pro Ser Trp Leu Asn Leu Asp Asn Pro Arg Val Thr Ile  
355 360 365

Val Thr His Gln Asp Ile Phe Gln Asn Leu Ser His Leu Pro Thr Phe  
370 375 380

Ser Ser Pro Ala Ile Glu Ser His Ile His Arg Ile Glu Gly Leu Ser  
385 390 395 400

Gln Lys Phe Ile Tyr Leu Asn Asp Asp Val Met Phe Gly Lys Asp Val  
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Trp Pro Asp Asp Phe Tyr Ser His Ser Lys Gly Gln Lys Val Tyr Leu  
420 425 430

Thr Trp Pro Val Pro Asn Cys Ala Glu Gly Cys Pro Gly Ser Trp Ile  
435 440 445

Lys Asp Gly Tyr Cys Asp Lys Ala Cys Asn Thr Ser Pro Cys Asp Trp  
450 455 460

Asp Gly Gly Asn Cys Ser Gly Asn Thr Ala Gly Asn Arg Phe Val Ala  
465 470 475 480

Arg Gly Gly Gly Thr Gly Asn Ile Gly Ala Gly Gln His Trp Gln Phe  
485 490 495

Gly Gly Gly Ile Asn Thr Ile Ser Tyr Cys Asn Gln Gly Cys Ala Asn  
500 505 510

Ser Trp Leu Ala Asp Lys Phe Cys Asp Gln Ala Cys Asn Val Leu Ser  
515 520 525

Cys Gly Phe Asp Ala Gly Asp Cys Gly Gln Asp His Phe His Glu Leu  
530 535 540

Tyr Lys Val Thr Leu Leu Pro Asn Gln Thr His Tyr Val Val Pro Lys  
545 550 555 560

Gly Glu Tyr Leu Ser Tyr Phe Ser Phe Ala Asn Ile Ala Arg Lys Arg  
565 570 575

Ile Glu Gly Thr Tyr Ser Asp Asn Pro Ile Ile Arg His Ala Ser Ile  
580 585 590

Ala Asn Lys Trp Lys Thr Leu His Leu Ile Met Pro Gly Gly Met Asn  
595 600 605

Ala Thr Thr Ile Tyr Phe Asn Leu Thr Leu Gln Asn Ala Asn Asp Glu  
610 615 620

Glu Phe Lys Ile Gln Ile Ala Val Glu Val Asp Thr Arg Glu Ala Pro  
625 630 635 640

Lys Leu Asn Ser Thr Thr Gln Lys Ala Tyr Glu Ser Leu Val Ser Pro  
645 650 655

Val Thr Pro Leu Pro Gln Ala Asp Val Pro Phe Glu Asp Val Pro Lys  
660 665 670

Glu Lys Arg Phe Pro Lys Ile Arg Arg His Asp Val Asn Ala Thr Gly  
675 680 685

Arg Phe Gln Glu Glu Val Lys Ile Pro Arg Val Asn Ile Ser Leu Leu  
690 695 700

Pro Lys Glu Ala Gln Val Arg Leu Ser Asn Leu Asp Leu Gln Leu Glu  
705 710 715 720

Arg Gly Asp Ile Thr Leu Lys Gly Tyr Asn Leu Ser Lys Ser Ala Leu

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725

730

735

Leu Arg Ser Phe Leu Gly Asn Ser Leu Asp Thr Lys Ile Lys Pro Gln  
740 745 750

Ala Arg Thr Asp Glu Thr Lys Gly Asn Leu Glu Val Pro Gln Glu Asn  
755 760 765

Pro Ser His Arg Arg Pro His Gly Phe Ala Gly Glu His Arg Ser Glu  
770 775 780

Arg Trp Thr Ala Pro Ala Glu Thr Val Thr Val Lys Gly Arg Asp His  
785 790 795 800

Ala Leu Asn Pro Pro Pro Val Leu Glu Thr Asn Ala Arg Leu Ala Gln  
805 810 815

Pro Thr Leu Gly Val Thr Val Ser Lys Glu Asn Leu Ser Pro Leu Ile  
820 825 830

Val Pro Pro Glu Ser His Leu Pro Lys Glu Glu Glu Ser Asp Arg Ala  
835 840 845

Glu Gly Asn Ala Val Pro Val Lys Glu Leu Val Pro Gly Arg Arg Leu  
850 855 860

Gln Gln Asn Tyr Pro Gly Phe Leu Pro Trp Glu Lys Lys Lys Tyr Phe  
865 870 875 880

Gln Asp Leu Leu Asp Glu Glu Glu Ser Leu Lys Thr Gln Leu Ala Tyr  
885 890 895

Phe Thr Asp Arg Lys His Thr Gly Arg Gln Leu Lys  
900 905

<210> 10  
<211> 328  
<212> PRT  
<213> Mus musculus

<400> 10

Asp Thr Phe Ala Asp Ser Leu Arg Tyr Val Asn Lys Ile Leu Asn Ser  
1 5 10 15

10023888-122101

Lys Phe Gly Phe Thr Ser Arg Lys Val Pro Ala His Met Pro His Met  
20 25 30

Ile Asp Arg Ile Val Met Gln Glu Leu Gln Asp Met Phe Pro Glu Glu  
35 40 45

Phe Asp Lys Thr Ser Phe His Lys Val Arg His Ser Glu Asp Met Gln  
50 55 60

Phe Ala Phe Ser Tyr Phe Tyr Tyr Leu Met Ser Ala Val Gln Pro Leu  
65 70 75 80

Asn Ile Ser Gln Val Phe His Glu Val Asp Thr Asp Gln Ser Gly Val  
85 90 95

Leu Ser Asp Arg Glu Ile Arg Thr Leu Ala Thr Arg Ile His Asp Leu  
100 105 110

Pro Leu Ser Leu Gln Asp Leu Thr Gly Leu Glu His Met Leu Ile Asn  
115 120 125

Cys Ser Lys Met Leu Pro Ala Asn Ile Thr Gln Leu Asn Asn Ile Pro  
130 135 140

Pro Thr Gln Glu Ala Tyr Tyr Asp Pro Asn Leu Pro Pro Val Thr Lys  
145 150 155 160

Ser Leu Val Thr Asn Cys Lys Pro Val Thr Asp Lys Ile His Lys Ala  
165 170 175

Tyr Lys Asp Lys Asn Lys Tyr Arg Phe Glu Ile Met Gly Glu Glu Glu  
180 185 190

Ile Ala Phe Lys Met Ile Arg Thr Asn Val Ser His Val Val Gly Gln  
195 200 205

Leu Asp Asp Ile Arg Lys Asn Pro Arg Lys Phe Val Cys Leu Asn Asp  
210 215 220

Asn Ile Asp His Asn His Lys Asp Ala Arg Thr Val Lys Ala Val Leu  
225 230 235 240

Arg Asp Phe Tyr Glu Ser Met Phe Pro Ile Pro Ser Gln Phe Glu Leu  
245 250 255

Pro Arg Glu Tyr Arg Asn Arg Phe Leu His Met His Glu Leu Gln Glu  
260 265 270

Trp Arg Ala Tyr Arg Asp Lys Leu Lys Phe Trp Thr His Cys Val Leu  
275 280 285

Ala Thr Leu Ile Ile Phe Thr Ile Phe Ser Phe Phe Ala Glu Gln Ile  
290 295 300

Ile Ala Leu Lys Arg Lys Ile Phe Pro Arg Arg Arg Ile His Lys Glu  
305 310 315 320

Ala Ser Pro Asp Arg Ile Arg Val  
325

<210> 11  
<211> 2070  
<212> DNA  
<213> Mus musculus  
  
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cattcgggtg agcggatcac ggtcctgcgg cttgggggacc gagcctggct ggttcttctg 180  
acctntcaa ttccataggc tgaataaccc gttcttgccc caggcaagcc gccttcagcc 240  
caagagagag ccttcagctg tatcccgcaa attaagagaa attaatttca aacgatttag 300  
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caacagtggg tgtcctggaa ctacttttg taaaccaggc tgccttaaa ctacaaagc 600  
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ttaatTTTTg agactgggtc tcattatgtg gccctagaca gatactgaga gcctcctcca	720
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gtcagtcctt aggagttagg tcagcctgcc tctgcattcc caataattta ggaaaggagc	840
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tatgaattct gccctttcca caacgtcacc cagcacgagc agaccttcg ctggaatgcc	1140
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atgtggatga ctgatgggga ctctgccac tcccgagcc ggcagagcaa ggtggagctc	1260
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acaccacagg gctatgagaa gttgctaagg gtactttttg aggatgctgg ctacttaaag	1500
gtcccaggag aaacccatcc caccagctg gcaggagggt ccaagggcct ggggcttgag	1560
actctggaca actgtagaaa ggcacatgca gagctgtcac aggaggtaca aagactgacg	1620
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agcagagcat ctgcggagtg acccaggact acgtgggaac atcctgtgag caaggtggcc	1860
acgaagaata gaaatctct gagctttgag tgtcctttca cagagtgaac aaaactggtg	1920
tgggtgtagac acggcttctt ttggcatatt ctagatcaga cagtgtcact gacaaacaag	1980
agggacctgc tggccagcct ttgttgtgcc caaagatcca gacaaaataa agattcaaag	2040
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<210> 12  
 <211> 307  
 <212> PRT  
 <213> Mus musculus  
  
 <400> 12

1003388-122101

Met Ala Gly Arg Leu Ala Gly Phe Leu Met Leu Leu Gly Leu Ala Ser  
1 5 10 15

Gln Gly Pro Ala Pro Ala Cys Ala Gly Lys Met Lys Val Val Glu Glu  
20 25 30

Pro Asn Thr Phe Gly Leu Asn Asn Pro Phe Leu Pro Gln Ala Ser Arg  
35 40 45

Leu Gln Pro Lys Arg Glu Pro Ser Ala Val Ser Gly Pro Leu His Leu  
50 55 60

Phe Arg Leu Ala Gly Lys Cys Phe Ser Leu Val Glu Ser Thr Tyr Lys  
65 70 75 80

Tyr Glu Phe Cys Pro Phe His Asn Val Thr Gln His Glu Gln Thr Phe  
85 90 95

Arg Trp Asn Ala Tyr Ser Gly Ile Leu Gly Ile Trp His Glu Trp Glu  
100 105 110

Ile Ile Asn Asn Thr Phe Lys Gly Met Trp Met Thr Asp Gly Asp Ser  
115 120 125

Cys His Ser Arg Ser Arg Gln Ser Lys Val Glu Leu Thr Cys Gly Lys  
130 135 140

Ile Asn Arg Leu Ala His Val Ser Glu Pro Ser Thr Cys Val Tyr Ala  
145 150 155 160

Leu Thr Phe Glu Thr Pro Leu Val Cys His Pro His Ser Leu Leu Val  
165 170 175

Tyr Pro Thr Leu Ser Glu Ala Leu Gln Gln Arg Leu Asp Gln Val Glu  
180 185 190

Gln Asp Leu Ala Asp Glu Leu Ile Thr Pro Gln Gly Tyr Glu Lys Leu  
195 200 205

Leu Arg Val Leu Phe Glu Asp Ala Gly Tyr Leu Lys Val Pro Gly Glu  
210 215 220

Thr His Pro Thr Gln Leu Ala Gly Gly Ser Lys Gly Leu Gly Leu Glu

225 230 235 240

Thr Leu Asp Asn Cys Arg Lys Ala His Ala Glu Leu Ser Gln Glu Val  
245 250 255

Gln Arg Leu Thr Ser Leu Leu Gln Gln His Gly Ile Pro His Thr Gln  
260 265 270

Pro Thr Glu Thr Thr His Ser Gln His Leu Gly Gln Gln Leu Pro Ile  
275 280 285

Gly Ala Ile Ala Ala Glu His Leu Arg Ser Asp Pro Gly Leu Arg Gly  
290 295 300

Asn Ile Leu  
305

<210> 13  
<211> 460  
<212> DNA  
<213> Rattus rattus

<400> 13  
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taaccccaaaa ggtttccccc agctgaacaa gcagaccaag aagaacatga gcatcagtgg 180  
gaaggaactg gccatcagcc ctgcctatct gctgtgggac ctgagcgcca tcagccagtc 240  
caagcaggat gaagatgtgt ctgccagccg cttcgaggat aacgaagagc tgaggtactc 300  
actgagatct atcgagagac atgattccat gagtcttcta tgaattctgg ccatactctc 360  
aatcatgata tcagtagtat tcctctgaaa tggcacacat ttttctaata agaacttgaa 420  
atgtaaataat tgtgtttgtg ctgtaaattt tgtgtatttc 460

<210> 14  
<211> 113  
<212> PRT  
<213> Rattus rattus

<400> 14

Phe Pro Pro Thr Phe Lys Glu Thr Ser Gln Leu Lys Thr Lys Leu Pro  
1 5 10 15

10023333.12101



Glu Asn Leu Ser Ser Lys Ile Lys Leu Leu Gln Leu Tyr Ser Glu Ala  
 20 25 30

Ser Val Ala Leu Leu Lys Leu Asn Asn Pro Lys Gly Phe Pro Glu Leu  
 35 40 45

Asn Lys Gln Thr Lys Lys Asn Met Ser Ile Ser Gly Lys Glu Leu Ala  
 50 55 60

Ile Ser Pro Ala Tyr Leu Leu Trp Asp Leu Ser Ala Ile Ser Gln Ser  
 65 70 75 80

Lys Gln Asp Glu Asp Val Ser Ala Ser Arg Phe Glu Asp Asn Glu Glu  
 85 90 95

Leu Arg Tyr Ser Leu Arg Ser Ile Glu Arg His Asp Ser Met Ser Pro  
 100 105 110

Leu

<210> 15  
 <211> 1105  
 <212> DNA  
 <213> Drosophila melanogaster

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 <222> (903)..(903)  
 <223> n is a, g, t, or c

<220>  
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 <223> n is a, g, t, or c

<220>  
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 <222> (1023)..(1023)  
 <223> n is a, g, t, or c

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 <223> n is a, g, t, or c

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 <222> (1071)..(1071)  
 <223> n is a, g, t, or c

<220>  
 <221> misc\_feature  
 <222> (1100)..(1100)  
 <223> n is a, g, t, or c

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 ccaagttggc tggatctcag ctacgaaagg gtcacggtgg tgccccacga agtcctggct 180  
 cccgatcccg accagctgcc caccttctcc agctcggcca tcgagacatt tctgcaccgc 240  
 ataccaaagc tgtccaagag gttcctctac ctcaacgacg acatattcct gggagctccg 300  
 ctgtatccgg aggacttgta cactgaagcg gagggagttc gcgtgtacca ggcatggatg 360  
 gtgcccggct gcgccttgga ttgcccctgg acgtacatag gtgatggagc ttgcgatcgg 420  
 cactgcaaca ttgatgcgtg ccaatttgat ggaggcgact gcagtgaaac tgggccagcg 480  
 agcgatgccc acgtcattcc accaagcaaa gaagtgctcg aggtgcagcc tgccgctgtt 540  
 ccacaatcaa gagtccaccg atttcctcag atgggtctcc aaaagctgtt caggcgcagc 600  
 tctgccaatt ttaaggatgt tatgcggcac cgcaatgtgt ccacactcaa ggaactacgt 660  
 cgcattgtgg agcgttttaa caaggccaaa ctcatgtcgc tgaaccccgga actggagacc 720  
 tccagctccg agccacagac aactcagcgc cacgggctgc gcaaggagga ttttaagtct 780  
 tccaccgata tttactctca ctgctgatt gccaccaata tggtgctgaa tagagcctat 840  
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 gangccatgc aacgacgttt taccagcgaa ttctngacac tggccattaa cgctttccga 960  
 gccccaacag atttgagta cgcattcgct tactacttct ttctaagtag cgaaatccaa 1020  
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 <211> 502  
 <212> PRT  
 <213> Drosophila melanogaster

10023333 12101

<400> 16

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Ser Leu Glu Lys His Ala Ala Trp Ile Arg His Val Tyr Ile Val Thr  
20 25 30

Asn Gly Gln Ile Pro Ser Trp Leu Asp Leu Ser Tyr Glu Arg Val Thr  
35 40 45

Val Val Pro His Glu Val Leu Ala Pro Asp Pro Asp Gln Leu Pro Thr  
50 55 60

Phe Ser Ser Ser Ala Ile Glu Thr Phe Leu His Arg Ile Pro Lys Leu  
65 70 75 80

Ser Lys Arg Phe Leu Tyr Leu Asn Asp Asp Ile Phe Leu Gly Ala Pro  
85 90 95

Leu Tyr Pro Glu Asp Leu Tyr Thr Glu Ala Glu Gly Val Arg Val Tyr  
100 105 110

Gln Ala Trp Met Val Pro Gly Cys Ala Leu Asp Cys Pro Trp Thr Tyr  
115 120 125

Ile Gly Asp Gly Ala Cys Asp Arg His Cys Asn Ile Asp Ala Cys Gln  
130 135 140

Phe Asp Gly Gly Asp Cys Ser Glu Thr Gly Pro Ala Ser Asp Ala His  
145 150 155 160

Val Ile Pro Pro Ser Lys Glu Val Leu Glu Val Gln Pro Ala Ala Val  
165 170 175

Pro Gln Ser Arg Val His Arg Phe Pro Gln Met Gly Leu Gln Lys Leu  
180 185 190

Phe Arg Arg Ser Ser Ala Asn Phe Lys Asp Val Met Arg His Arg Asn  
195 200 205

Val Ser Thr Leu Lys Glu Leu Arg Arg Ile Val Glu Arg Phe Asn Lys  
210 215 220

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Ala Lys Leu Met Ser Leu Asn Pro Glu Leu Glu Thr Ser Ser Ser Glu  
225 230 235 240

Pro Gln Thr Thr Gln Arg His Gly Leu Arg Lys Glu Asp Phe Lys Ser  
245 250 255

Ser Thr Asp Ile Tyr Ser His Ser Leu Ile Ala Thr Asn Met Leu Leu  
260 265 270

Asn Arg Ala Tyr Gly Phe Lys Ala Arg His Val Leu Ala His Val Gly  
275 280 285

Phe Leu Ile Asp Lys Asp Ile Val Glu Ala Met Gln Arg Arg Phe His  
290 295 300

Gln Gln Ile Leu Asp Thr Ala His Gln Arg Phe Arg Ala Pro Thr Asp  
305 310 315 320

Leu Gln Tyr Ala Phe Ala Tyr Tyr Ser Phe Leu Met Ser Glu Thr Lys  
325 330 335

Val Met Ser Val Glu Glu Ile Phe Asp Glu Phe Asp Thr Asp Gly Ser  
340 345 350

Ala Thr Trp Ser Asp Arg Glu Val Arg Thr Phe Leu Thr Arg Ile Tyr  
355 360 365

Gln Pro Pro Leu Asp Trp Ser Ala Met Arg Tyr Phe Glu Glu Val Val  
370 375 380

Gln Asn Cys Thr Arg Asn Leu Gly Met His Leu Lys Val Asp Thr Val  
385 390 395 400

Glu His Ser Thr Leu Val Tyr Glu Arg Tyr Glu Asp Ser Asn Leu Pro  
405 410 415

Thr Ile Thr Arg Asp Leu Val Val Arg Cys Pro Leu Leu Ala Glu Ala  
420 425 430

Leu Ala Ala Asn Phe Ala Val Arg Pro Lys Tyr Asn Phe His Val Ser  
435 440 445

Pro Lys Arg Thr Ser His Ser Asn Phe Met Met Leu Thr Ser Asn Leu  
450 455 460

Thr Glu Val Val Glu Ser Leu Asp Arg Leu Arg Arg Asn Pro Arg Lys  
465 470 475 480

Phe Asn Cys Ile Asn Asp Asn Leu Asp Ala Asn Arg Gly Glu Asp Asn  
485 490 495

Glu Asp Gly Ala Pro Ser  
500

<210> 17  
<211> 2183  
<212> DNA  
<213> Homo sapiens

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ccacgcgcgc gcgcgcgcct ccccggggac tgcacacggg tgcgcgccgg caaccgcgag 180  
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100233333 123101

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gtcatcctgc tgccaagaag ttttttaatc acttgaataa attgatataa taaaaggagc 2160  
caccaggtgg tgtgtggatt ctg 2183

<210> 18  
<211> 515  
<212> PRT  
<213> Homo sapiens

<400> 18

Met Ala Thr Ser Thr Gly Arg Trp Leu Leu Leu Arg Leu Ala Leu Phe  
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Gly Phe Leu Trp Glu Ala Ser Gly Gly Leu Asp Ser Gly Ala Ser Arg  
20 25 30

Asp Asp Asp Leu Leu Leu Pro Tyr Pro Arg Ala Arg Ala Arg Leu Pro  
35 40 45

10023388-122101

Arg Asp Cys Thr Arg Val Arg Ala Gly Asn Arg Glu His Glu Ser Trp  
50 55 60

Pro Pro Pro Pro Ala Thr Pro Gly Ala Gly Gly Leu Ala Val Arg Thr  
65 70 75 80

Phe Val Ser His Phe Arg Asp Arg Ala Val Ala Gly His Leu Thr Arg  
85 90 95

Ala Val Glu Pro Leu Arg Thr Phe Ser Val Leu Glu Pro Gly Gly Pro  
100 105 110

Gly Gly Cys Ala Ala Arg Arg Arg Ala Thr Val Glu Glu Thr Ala Arg  
115 120 125

Ala Ala Asp Cys Arg Val Ala Gln Asn Gly Gly Phe Phe Arg Met Asn  
130 135 140

Ser Gly Glu Cys Leu Gly Asn Val Val Ser Asp Glu Arg Arg Val Ser  
145 150 155 160

Ser Ser Gly Gly Leu Gln Asn Ala Gln Phe Gly Ile Arg Arg Asp Gly  
165 170 175

Thr Leu Val Thr Gly Tyr Leu Ser Glu Glu Glu Val Leu Asp Thr Glu  
180 185 190

Asn Pro Phe Val Gln Leu Leu Ser Gly Val Val Trp Leu Ile Arg Asn  
195 200 205

Gly Ser Ile Tyr Ile Asn Glu Ser Gln Ala Thr Glu Cys Asp Glu Thr  
210 215 220

Gln Glu Thr Gly Ser Phe Ser Lys Phe Val Asn Val Ile Ser Ala Arg  
225 230 235 240

Thr Ala Ile Gly His Asp Arg Lys Gly Gln Leu Val Leu Phe His Ala  
245 250 255

Asp Gly His Thr Glu Gln Arg Gly Ile Asn Leu Trp Glu Met Ala Glu  
260 265 270

10023888-123101

Phe Leu Leu Lys Gln Asp Val Val Asn Ala Ile Asn Leu Asp Gly Gly  
275 280 285

Gly Ser Ala Thr Phe Val Leu Asn Gly Thr Leu Ala Ser Tyr Pro Ser  
290 295 300

Asp His Cys Gln Asp Asn Met Trp Arg Cys Pro Arg Gln Val Ser Thr  
305 310 315 320

Val Val Cys Val His Glu Pro Arg Cys Gln Pro Pro Asp Cys His Gly  
325 330 335

His Gly Thr Cys Val Asp Gly His Cys Gln Cys Thr Gly His Phe Trp  
340 345 350

Arg Gly Pro Gly Cys Asp Glu Leu Asp Cys Gly Pro Ser Asn Cys Ser  
355 360 365

Gln His Gly Leu Cys Thr Glu Thr Gly Cys Arg Cys Asp Ala Gly Trp  
370 375 380

Thr Gly Ser Asn Cys Ser Glu Glu Cys Pro Leu Gly Trp His Gly Pro  
385 390 395 400

Gly Cys Gln Arg Arg Cys Lys Cys Glu His His Cys Pro Cys Asp Pro  
405 410 415

Lys Thr Gly Asn Cys Ser Val Ser Arg Val Lys Gln Cys Leu Gln Pro  
420 425 430

Pro Glu Ala Thr Leu Arg Ala Gly Glu Leu Ser Phe Phe Thr Arg Thr  
435 440 445

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